UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,160	04/15/2004	Hua-Jun Zeng	MS1-1892US	8619

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EXAMINER
SANDERS, AARON J

ART UNIT	PAPER NUMBER
2169	

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/826,160	ZENG ET AL.
	Examiner	Art Unit	
	Aaron J. Sanders	2169	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 Arpil 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-54* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 April 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *See Continuation Sheet*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :08/02/04, 09/09/04, 11/02/05, 01/03/06, 06/19/06, 09/18/06.

DETAILED ACTION

Requirement for Information

Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.

In response to this requirement, please provide a copy of each of the following items of art referred to in the specification:

"Reinforcement Clustering of Multi-Type Interrelated Data Objects" cited in [0035].

Zeng et al., "CBC: Clustering Based Text Classification Requiring Minimal Labeled Data" cited in [0037].

In responding to those requirements that require copies of documents, where the document is a bound text or a single article over 50 pages, the requirement may be met by providing copies of those pages that provide the particular subject matter indicated in the requirement, or where such subject matter is not indicated, the subject matter found in applicant's disclosure.

The applicant is reminded that the reply to this requirement must be made with candor and good faith under 37 CFR 1.56. Where the applicant does not have or cannot readily obtain an item of required information, a statement that the item is unknown or cannot be readily obtained may be accepted as a complete reply to the requirement for that item.

This requirement is an attachment of the enclosed Office action. A complete reply to the enclosed Office action must include a complete reply to this requirement. The time

period for reply to this requirement coincides with the time period for reply to the

enclosed Office action.

CHRISTIAN CHACE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. For example, the data structure of claims 29 and 30 must be shown or the features canceled from the claims. While Fig. 2 may represent a data structure, it does not represent the specific data structure disclosed in claims 29 and 30. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is

suggested: Processing Service Requests for Product Support by Using Indexed and Clustered Answer Objects.

The specification is objected to because it has been noted that the specification contains a section entitled "Appendix A" beginning with [0064]. It is unclear whether this section is, indeed, a part of the instant specifications, or an improperly filed appendix (See 37 CFR 1.52 and 1.96). The Examiner has interpreted this "appendix" to be an enabling disclosure of the originally-filed application – part of the instant specification. Applicant is required to respond to this interpretation directly in Applicant's next submission.

The attempt to incorporate subject matter into this application by reference to "Reinforcement Clustering of Multi-Type Interrelated Data Objects" and "CBC: Clustering Based Text Classification Requiring Minimal Labeled Data" is ineffective because the documents have not been received with the application. This subject matter is essential because several claims recite "clustering".

The incorporation by reference will not be effective until correction is made to comply with 37 CFR 1.57(b), (c), or (d). If the incorporated material is relied upon to meet any outstanding objection, rejection, or other requirement imposed by the Office, the correction must be made within any time period set by the Office for responding to the objection, rejection, or other requirement for the incorporation to be effective. Compliance will not be held in abeyance with respect to responding to the objection, rejection, or other requirement for the incorporation to be effective. In no case may the correction be made later than the close of prosecution as defined in 37 CFR 1.114(b), or abandonment of the application, whichever occurs earlier.

Any correction inserting material by amendment that was previously incorporated

by reference must be accompanied by a statement that the material being inserted is the

material incorporated by reference and the amendment contains no new matter. 37 CFR

1.57(f).

Claim Objections

As per claims 1, 15, 31, and 45, the limitation "each structured solution data

object" lacks antecedent basis in the claims. It appears that it should be a "structured

answer data object" and for purposes of examination will be interpreted as such.

As per claims 1, 15, 31, and 45, it is not clear which "set" is being referred to in

the phrase, "from the set to an end-user". It appears that it should be the "set of one or

more structured answer data objects" and for purposes of examination will be interpreted

as such.

As per claims 4, 18, 34, and 48, it is not clear what "providing" is referring to in

the phrase, "wherein providing further comprises". It appears to refer back to the *step of*

providing in claim 1, and for purposes of examination will be interpreted as such.

As per claims 4, 18, 34, and 48, it is not clear which "set" is being referred to in

the phrase, "communicating the set to the client". It appears that it should be the "set of

one or more structured answer data objects" and for purposes of examination will be

interpreted as such.

As per claims 6, 20, and 36, it is not clear what "identifying" is referring to in the

phrase, "wherein identifying is based on". It appears to refer back to the *step of*

identifying in claim 1, and for purposes of examination will be interpreted as such.

As per claims 7, 21, and 37, it is not clear what "providing" is referring to in the

phrase, "wherein providing, if there is more". It may refer to the *step of providing* in

claim 1, but it could also refer to the clause, "the set comprises a reinforced cluster of

structured answer objects". For purposes of examination it will be interpreted to refer to

the *step of providing*.

As per claims 10, 24, 40, and 51, the number of the claim appears to be incorrect.

For example, if "description, symptom, cause, and resolution" are singular, then there

should be an article before "hierarchically structured". However, "one or more of

hierarchically structured" would be correct if "description, symptom, cause, and

resolution" were plural.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-8, 10-14, 16-22, 24-28, 30, 32-38, 40-44, 46-49, and 51-54 are rejected

under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly

point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 2-8, 10-14, 16-22, 24-28, 30, 32-38, 40-44, 46-49, and 51-54, the

preambles "A method as recited", "A computer-readable media as recited", and "A

computing device as recited", render the claims indefinite. Each dependent claim should

refer back to the claim(s) it further limits. Examples of appropriate preambles for a

dependent claim are, "The method as recited" or "The method of".

As per claims 7, 21, and 37, the word "if" renders the claims indefinite because it is unclear whether the limitations following the word are part of the claimed invention. See MPEP § 2173.05(d).

As per claims 41-44, the preamble "A computer-readable media as recited in claim 39" does not refer back to independent claim 39, which is a "computing device". Each dependent claim should refer back to the claim(s) it further limits. Examples of appropriate preambles for a dependent claim are, "The computing device as recited" or "The computing device of".

As per claims 52-54, the preamble "A computer-readable media as recited in claim 50" does not refer back to independent claim 50, which is a "computing device". Each dependent claim should refer back to the claim(s) it further limits. Examples of appropriate preambles for a dependent claim are, "The computing device as recited" or "The computing device of".

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 9-14, 23-18, 39-44, and 50-54 lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. There also does not appear to be any tangible result of the data manipulation in the claims. Further, they are clearly not a combination of chemical compounds to be a composition of matter. Accordingly, the claims do not appear to contain a useful result.

As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se.*

For example, in claims 9, 23, 39, and 50, "presenting, by a troubleshooting wizard" does not require that the information be presented to a user or another application. Also, claims 15-30, 41-44, and 52-54 recite a "computer-readable media" which, according to [0053], includes "computer storage media and communication media" which could include signal waves and is therefore non-statutory.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-54 are rejected under 35 U.S.C. 102(e) as being anticipated by Copperman et al., U.S. Pat. 6,711,585.

As per claims 1-28 and 31-54, only claims 31-44 have been reproduced below, as they are exemplary of all Applicant's claims. Claims 1-8 and 15-22 correspond to claims 31-38, claims 45-49 correspond to claims 31-35, claims 9-14 and 23-28 correspond to claims 39-44, and claims 50-54 correspond to claims 39-43. Copperman et al. teach the following method, computer-readable media, and computing device:

31. A computing device comprising:

a processor (See e.g. Detailed Description par. 8, "The operating environment in

which the present invention is used encompasses general distributed computing systems

wherein general purpose computers, work stations, or personal computers are connected

via communication links of various types"); and

a memory coupled to the processor, the memory comprising computer-program

instructions executable by the processor for (See e.g. Detailed Description par. 8, "The

operating environment in which the present invention is used encompasses general

distributed computing systems wherein general purpose computers, work stations, or

personal computers are connected via communication links of various types"):

converting, by a computing device, unstructured service requests to one or

more structured answer objects, each structured answer object comprising

hierarchically structured historic problem diagnosis data (See e.g. Fig. 1 where,

see Detailed Description par. 10, "knowledge map 10 comprises knowledge

containers 20, taxonomies 30 and taxonomy tags 40. Knowledge containers 20 are

individual instances of information that may be associated with one or more

taxonomies 30 through the use of one or more taxonomy tags 40" and where, see

Detailed Description par. 11, "Knowledge containers 20 can represent both rich

electronic content (such as documents, answers to questions, marketing materials,

etc.)" and where, see Brief Summary par. 11, "In a query-based retrieval, a user

specifies a natural language query"); and

in view of a product problem description:

identifying a set of the one or more structured answer data objects, each

structured solution data object in the set comprising term(s) and/or phrase(s)

related to the product problem description (See e.g. Fig. 2 where, see Detailed

Description par. 12, "each knowledge container comprises administrative meta-

data 50, context tagging 60, marked content 70, original content 80 and links 90"

and Brief Summary par. 11, "The present invention may then be used to aid a

researcher or user in quickly identifying relevant documents, in response to an

inputted query"); and

   providing historic and hierarchically structured problem diagnosis data

from the set to an end-user for product problem diagnosis (See e.g. Detailed

Description par. 15, "This allows the knowledge container 20 to be displayed to

the end user in its complete and original form if desired" and Detailed Description

par. 16, "Knowledge containers also include typed links 90 to other related

knowledge containers. These links 90 can indicate part/whole relationships (e.g., a

'question' knowledge container and an 'answer' knowledge container are each

part of a previously asked question (PAQ) knowledge container)").

   32. A computing device as recited in claim 31, and wherein the problem diagnosis

data comprise any one or more of a product problem description, symptom, cause, and

resolution (See e.g. Claim 22, "an association of a knowledge instance with a node of

said diagnostic taxonomy indicates that at least some content of the knowledge instance

describes a method to address that symptom").

   33. A computing device as recited in claim 31, and wherein the problem diagnosis

data comprise a link to a product support article (See e.g. Detailed Description par. 15,

"The knowledge container 20 additionally contains the original electronic form of the

original content 80 (perhaps a Microsoft Word document, a PDF file, an HTML page, a

pointer to such content in an external repository, or a combination of the above). This

allows the knowledge container 20 to be displayed to the end user in its complete and

original form if desired").

34. A computing device as recited in claim 31, and wherein converting,

identifying, and providing are performed by a server computing device (See e.g. Detailed

Description par. 8, "The operating environment in which the present invention is used

encompasses general distributed computing systems wherein general purpose computers,

work stations, or personal computers are connected via communication links of various

types"), and wherein the computer-executable instruction further comprise instructions

for:

receiving, from a client computing device, the product problem description (See

e.g. Brief Summary par. 11, "The present invention may then be used to aid a researcher

or user in quickly identifying relevant documents, in response to an inputted query"); and

wherein providing further comprises:

searching an index for terms and/or phrases that match term(s) in the

product problem description to identify the one or more structured answer objects

in the set (See e.g. Brief Summary par. 10, "the documents are first transformed

from clear text into a structured record (knowledge container) automatically

constructed indexes (tags) to help identify when the structured record is an

appropriate response to a particular query");

communicating the set to the client computing device for display by a

troubleshooting wizard to the end-user (See e.g. Detailed Description par. 17,

"Summary Views are typically used when displaying a list of possible knowledge

containers (for example, knowledge containers retrieved by a query) in order to

guide the user's selection of a particular knowledge container").

35. A computing device as recited in claim 31, wherein the computer-executable

instruction further comprise instructions for dynamically generating a knowledge base

article from information provided by the set (See e.g. Detailed Description par. 17, "In

general, knowledge containers are displayed in one of three ways, with many possible

variations of each: (1) Summary View... (2) Full View... and (3) Original View...").

36. A computing device as recited in claim 31, wherein after converting and

before identifying and providing, the computer-executable instruction further comprise

instructions for:

generating an index by:

extracting features from the structured answer objects (See e.g. Brief

Summary par. 10, "An automatic term extractor creates a list of terms that are

indicative of the subject matter contained in the documents");

analyzing the features to identify the terms and the phrases (See e.g. Brief

Summary par. 10, "A term analysis system assigns the relevant terms to one or

more taxonomies");

assigning relevance weight to the terms and the phrases (See e.g. Brief

Summary par. 10, "a suitable algorithm is then used to determine the relatedness

(weight) between each list of terms and its associated taxonomy");

normalizing terminology within the terms and the phrases (See e.g. Fig. 2

where, see Detailed Description par. 29, "taxonomy tags 40 and marked content

70 are added by autocontextualization. The purpose of autocontextualization is to

provide a mechanism for transforming a document (e.g., a document created by a word processor, or an e-mail) into a structured record and to automatically (without human review) construct indexes usable by a content-based retrieval engine to help identify when the structured record is an appropriate response to a particular query"); and

wherein identifying is based on information in the index (See e.g. Brief Summary par. 10, "the documents are first transformed from clear text into a structured record (knowledge container) automatically constructed indexes (tags) to help identify when the structured record is an appropriate response to a particular query").

37. A computing device as recited in claim 36, wherein after converting and before identifying and providing, the computer-executable instruction further comprise instructions for:

clustering respective ones of the structured answer objects based on the index to group related structured answer objects (See e.g. Brief Summary par. 10, "The system then clusters documents for each taxonomy in accordance with the weights ascribed to the terms in the taxonomy's list"); and

wherein providing, if there is more that one structured answer object in the set, the set comprises a reinforced cluster of structured answer objects (See e.g. Fig. 13 which depicts reinforced clustering and Fig. 16).

38. A computing device as recited in claim 37, wherein clustering comprises reinforced (See e.g. Fig. 13 which depicts reinforced clustering as clusters with similar vocabulary and Fig. 16) and unified clustering operations (See e.g. Fig. 2 which depicts a

Knowledge Container which contains heterogeneous data and Fig. 13 which depicts

clustering the Knowledge Containers).

39.   A computing device comprising:

a processor (See e.g. Detailed Description par. 8, "The operating environment in

which the present invention is used encompasses general distributed computing systems

wherein general purpose computers, work stations, or personal computers are connected

via communication links of various types"); and

a memory coupled to the processor, the memory comprising computer-program

instructions executable by the processor for (See e.g. Detailed Description par. 8, "The

operating environment in which the present invention is used encompasses general

distributed computing systems wherein general purpose computers, work stations, or

personal computers are connected via communication links of various types"):

communicating a search request to a server computing device, the search

request comprising a product problem description (See e.g. Brief Summary par.

11, "The present invention may then be used to aid a researcher or user in quickly

identifying relevant documents, in response to an inputted query");

responsive to receiving a response to the search request, presenting, by a

troubleshooting wizard, information from the response, the information

comprising hierarchically structured historic problem diagnosis data, the historic

problem diagnosis data being associated with term(s) and/or phrase(s) related to

the product problem description (See e.g. Detailed Description par. 17, "Summary

Views are typically used when displaying a list of possible knowledge containers

(for example, knowledge containers retrieved by a query) in order to guide the

user's selection of a particular knowledge container", Fig. 2 where, see Detailed

Description par. 12, "each knowledge container comprises administrative meta-

data 50, context tagging 60, marked content 70, original content 80 and links 90"

and Detailed Description par. 16, "Knowledge containers also include typed links

90 to other related knowledge containers. These links 90 can indicate part/whole

relationships (e.g., a 'question' knowledge container and an 'answer' knowledge

container are each part of a previously asked question (PAQ) knowledge

container)").

40. A computing device as recited in claim 39, wherein the historic problem

diagnosis data comprise any one or more of hierarchically structured product problem

description, symptom, cause, and resolution information (See e.g. Claim 22, "an

association of a knowledge instance with a node of said diagnostic taxonomy indicates

that at least some content of the knowledge instance describes a method to address that

symptom").

41. A computer-readable media as recited in claim 39, wherein the information

comprises a link to a product support article (See e.g. Detailed Description par. 15, "The

knowledge container 20 additionally contains the original electronic form of the original

content 80 (perhaps a Microsoft Word document, a PDF file, an HTML page, a pointer to

such content in an external repository, or a combination of the above). This allows the

knowledge container 20 to be displayed to the end user in its complete and original form

if desired").

42. A computer-readable media as recited in claim 39, wherein the information

comprises a set of structured answer objects (See e.g. Figs. 1 and 2, and Detailed

Description par. 16, "Knowledge containers also include typed links 90 to other related

knowledge containers. These links 90 can indicate part/whole relationships (e.g., a

'question' knowledge container and an 'answer' knowledge container are each part of a

previously asked question (PAQ) knowledge container)").

43. A computer-readable media as recited in claim 42, wherein respective ones of

the structured answer objects were clustered by the server as corresponding to one-

another, the clustering being based on reinforced clustering operations (See e.g. Fig. 13

which depicts reinforced clustering, Fig. 16, and Brief Summary par. 10, "The system

then clusters documents for each taxonomy in accordance with the weights ascribed to

the terms in the taxonomy's list").

44. A computer-readable media as recited in claim 43, wherein the clustering is

further based on unified clustering operations (See e.g. Fig. 2 which depicts a Knowledge

Container which contains heterogeneous data and Fig. 13 which depicts clustering the

Knowledge Containers).

As per claims 29 and 30, Copperman et al. teach:

29. A computer-readable media comprising a structured solution request data

structure for use in product problem analysis and diagnosis, the structured solution

request data structure comprising:

a product problem description data field;

a product problem cause data field;

a product problem resolution data field; and

wherein the product problem description data field is a parent node of the product

problem cause data field, and the product problem cause data field is a parent node of the

product problem resolution data field (See e.g. Detailed Description par. 120, "In query-based retrieval, the user (or application screen) specifies: a query; zero or more initial taxonomy tags; zero or more taxonomic restrictions; and knowledge container restrictions (if any)... The user then may identify initial taxonomy tags. That is, the user selects concept nodes that will further define the query. These concept nodes are used in retrieval along with the nodes found by autocontextualization of the query" and Detailed Description par. 16, "Knowledge containers also include typed links 90 to other related knowledge containers. These links 90 can indicate part/whole relationships (e.g., a 'question' knowledge container and an 'answer' knowledge container are each part of a previously asked question (PAQ) knowledge container)" and Fig. 2, where "description" could be the Knowledge Container's cluster, the "cause" could be a "Taxonomy Tag" or "Marked Content", and the "resolution" could be a "Link" to another Knowledge Container).

30. A computer-readable media as recited in claim 29, wherein the structured solution request data structure further comprises a product problem symptom data field, the product problem description field being a parent node of the product problem symptom data field (See e.g. Fig. 2 where "symptom" could be a "Taxonomy Tag" or "Marked Content").

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron J. Sanders whose telephone number is 571-270-1016. The examiner can normally be reached on M-Th 7:30a-5:00p.
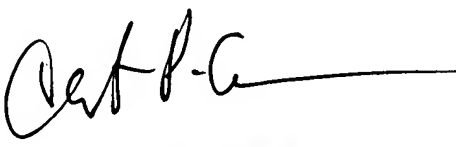
If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Christian Chace can be reached on 571-272-4190. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Customer Service Representative or access to the automated information system, call

800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJS

CHRISTIAN CHACE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100